

Figure 2A continued

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1841 CCGAGGATTG AACAAAGTTG ATGTTCCCGT ATTTATTGCA GGAGCCAGAG AAGAAAGTGG AAAAATCTAC ACCACAGGCG
>.....purD.....>
1921 GGCGCGTGCT CAATGTGGTG GGAAGTGGCG CTACGCTAGA AGAAGCCAGA AAAGTGGCTT ACGAAAATAT CCATAAAATC
>.....purD.....>
      GAGATCTGG>>.....OE-F.....>>
      -----
      BglII
2001 AATTTTGATT ATGAATATTA TCGCGAAGAC ATCGGGAAGA TATAATCTCG CTGATTTTTA ACCAAACAT ATTTAAAAAC
>.....purD.....>>
2081 GCTTTTGTTA CTTTATAAAA CAAAGGCGTT TTCTATTTT TGTGCCACTA TAACATGATT TAACCCATGA AAAAAATACT
2161 AAAAAATACT ATTTTCTAC TGCTCATTC TTGGGTTTAT GCCCTGATT TAATCTTTAT AAATCCACCT ATCACCATT
2241 CACAGCTGAG CAATTTATCT TATGGTTTCT CCAGAACACA GCTCGCTTAT GATGAAATTC CGGCTAGTGC TAAATGGGCT
2321 GTAATTGCAG CAGAAGACCA GAATTTTGCC ATTCATAATG GCTTTGATT TAAAGAAAT AAAACCGCCT ACGAGAAAAA
2401 CAAAGCGGGC AAGAAATTGC GTGGCGGGAG CACCTTTTCG CAACAACTG CCAAAAATGT ATTTTGTGG CAAGGCGCGA
2481 CTTGGATTAG AAAAGGATTG GAAACCTACT GCACCTTTAT CATCGAAACG CTGTGGAGCA AGGAGCGTAT TTTGCAAGTT
2561 TACCTCAACA ATGCCGAAT GGGCAAAGGC GTTATGGCA TAGAGGCAGC GGCACAATAT TATTTTAAAG AAAACGCCTC
2641 ACAGCTCAGC CTTACCGAGA CGGCACGCAT CATTGCCTGC CTGCCAATC CAAAAAATA CAATNTAAAC CCGCAAGTG
2721 CCTACATCTC AAAACGCGGA CAATGGATTG TCGCCAAGT GCGAACTTG AAAGGCGATA GGGCTCTGAG CGAGATTGTG
2801 AACACGCCCT AACGCCTGCC TCAACTCTTT GCACACAGTT TACCAACTCT CTGCGAAGAG TTCACAACT CTTCGCACAC
2881 ACTTCCCAA GTCTTTGCAA AGAGTTGGGA GATACTTAGG CACAAAAAA AGGAACCTCA TGAATAGAGG TTCCCTCTTC
2961 CTTAAAAGGA ATAAATAATA ATGTTTTTAA AGCTTTAGGC TTGGCTACTT TTTCAAAGCC TGCTGCCTTC ATGCTATCTA
      -----
      HindIII
3041 GGATACGCTT GCCTGGGCGG TAGTTTACGC CTACCTTTTT GATTAGGCC GAATGAAAT CTTTCTCTGT ATCTGCCGCT
      <<.....R8.....<
3121 CCACTGCTTA AAGTGGCATA GAGCGAGCCA AGCTTATCTA AACGAACGAT TTTGCCCGCT GCCAAGGCGT CTGAATTAC
<R8.<<AAGCTTAAG
      -----
      HindIII
3201 ATTCTCTAGC GCAATGATAA CGCCACGAAT ATCTGCCTCG CTGAGTCCG AAAACTTCTC GATTGCTTA ACGAGCTGGT
3281 CTATATCCAT TTCTCCATCG CTTGCCACCA CGGCATAGTA TTTTGTGGC TCCCTGGGCT TGCTGGGTT TCTACGCTGA
3361 ATTACATTGT ATTTATGCT CATAATTACT CTATTTTAA TAGCCTCCCG ATGGATATAA AGTTACGCTA CAATTAGGGT
3441 CTCCATAAGC AAATCTATAC CCCTCTCTTT CATATTCCTT TCTCATCTT CTTGCTCCAT CTCTCAAGGC ATCCGCTCTA
3521 TTACTGCTAT ACCCCTCCTG AAGAAATGTG TCTGCACTTG AAGAAGAATA TGAAGAGCTA TGAGAATCGT GCAACATAGT
3601 CCAAGCTCCA TCTTGAGCTA TAACATTGTC ATGACATGTA ACACCTATAG TATAATAAAA TCTCCTAGGA GGTGTGTTC
3681 CACCACCACC TCCAGAGCTA CTACTTTTTT TACATTGTCC ATTTTGGTTA GCATGATTTT GTCCGCCATC ACTTACTAAC
3761 TTCTTAGCTT CTGCTAAGGC TTTTCTCTT GCTTTCTTT CAGCATCTGC TTGGCTAATT CCACTCACTG CTGTAGCTGT
3841 CGCTTCTTTT TTATAGTTTA CCGAGGTTC ATAATAGCCA CTACTACAA TGTTCCTGT AAAGTTTTTA TTTAAAGATT
3921 GAGTTTGTGT TGAGGTGTAC CCTCCGAAAC CTTTACTTC TACAGTAAG GTAGAACTCC CCATGCTTAC GGGGAAGGTG
4001 GCGATAGTAT ACGATTGCC TGGCGGCATT TGTTTACTT GATACACTCC ATCTCCTCC ACTTCZATGC TTGCGTTAA
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Figure 2A continued

4081 ATTACCACTA CCGCTAAAAG AGCCTTCTGC TATTTTGTGT GTTAAATCAT TTATATCCCC TCCTTGTCCT TTTGCAGAAG
4161 CTTTGTGTTAC ACTTACAGCA TCATAAGCTC CTTTCCATT GGTATAAGGT ATTTATATGG CCAAAC

Figure 2B continued

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1681 CAACCAATTG AGAGAGAAAA TCGGTGTGAT GTTCGGTAGT CCAGAAACCA CAACGGGTGG TAATGCACCTT AAATTCTATG
>.....recA.....>

1761 CATCGGTGCG TCTAGACATT CGTCGTTCTA CTCAGATTAA AGATGGGAAC GATGTCATCG GAAACTTGAC TCGCGTAAAA
>.....recA.....>

1841 GTAGTGA AAAAAGTAGC TCCGCCATTC CGTAGTCAG AATTCGACAT TATGTATGGC GAAGGAATCT CTAAAGCAGG
>.....recA.....>
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BcoRI

1921 CGAGATTTTA GACATTGCTA CCGATTAGA AATCGTGAAA AAAAGTGGCT CTTGGTATTC TTATGCAGAT ACTAACTAG
>.....recA.....>

2001 GACAAGGGCG AGATGCCGTG CGTCCGGTAT TGAAGATAA TCCAGAATTA GCCGAAGAAT TAGAAGAGAA AATTAAAGAA
>.....recA.....>
CGAGATCT>>.....OEF1.....>
-----
BglII

2081 GAATAGAGA AAAAATAGAT TTTTAGTTT TTTAATTAA ACGAAAAATC CGTTCACCTT GTTGAACGGA TTTTTTATG
>.....recA.....>

2161 CTGGAATGAA TTTATTCCA ATGGATTGAA TAGCCATGCA CTFTTAAATC TTCGCTATCA TAAGTGATTT CTTTGTGCGT

2241 GTTGGGATAG CAAACTTTAA GTCCCTGCGTA TTTGGCAATG GCATGTCCGT CGGCAATGTC CCAAAAGTTT ACAGGTCTAA

2321 AGCGGGTGTG CTCCGTAGCC CACCGATCGG CAATTAGCCC AAGTTTGATA ACGCTTCCCA TAGGCTTTGT GCGGAAAAAT

2401 TCATGTTGCG ATTTAATTTT TTTGATGTAT TCCTCGGTGC CAGGATCCAT GTGGAATTTG CTACAAAGAA AAGTGTAATC

2481 TTCGGGCAAA TCCATGGTAG GAATTGGCTT GCTGTGTTTC ATCAATTTGT CAAAAAATC CGATTTTCTA GCCATTTTGT

2561 GCAATTTGTTG TTGAGTCCCG ATGAATTTAC GAGAAGGGCA TTTATCGCTA CCGAAATAGA ACAATCCAAG CGATGGGGCG

2641 TACAAAATCT CTAGCTTAGC CGTATTATTC TCACTAAGC CTAGACACAC GCAATATTCA TCTGTTTGTG TGACAAAATC

2721 CATGGTGCCA TCAATAGGGT CTGCAATCCA ATAGGTGGGC GTATTTCTAA TTTCTGTAA AGAATCCTTA TCTCCTTCCT

2801 CACTAAAGTA TGAATGTCT GTAAAGGAAA CATGTTTTTG CAAGATTTTG TTGGCGGCTA AATCTGCACT TGTAAACGGC

2881 GATCCGTGCG CTTTGGTCTC GGTGGAGAAT CCGTTTTGGA TGTTTTTAAA ACCTCTTCGC CAGCAAGTGC TACAGCCCGT

2961 GTTGGGATTT CTAATAAATT CATAATCATT CTTTATTCTT CGAACAAAGT CAAATAATTC TCTGTATTAA AAAATAATTT

3041 TGGCGATAAA AATTAAATTT TATATATAAA ATATCTCTGC AAAAAACCA ATCAATATT TAGTGAATA AAAAAATTA

3121 GATTGTAAAT TTGCTTATG TTTTAGAGA ATACCATAA TCATAGAAA AATACGGGCT GGATCGAAGT AATCTGTGGC

3201 TCTATGTTTT CGGGCAAAAC CGAAGAGTTG ATTCGTAGAG TGAACGAGC CGAATTGGCT GGGCAAAAGG TAGAAATCTT
<<.....R5.....<<AAGCTTAAG
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HindIII

3281 TAAACCCGCA ATTGATAAAC GCTACGATGA GCAAGATGTG GTATCGCATG ATGAAAACAA AAAACAAGCA ACCCCGATTG

3361 AGGCGAGTTC TAACTTGCCC ATTTAGCAA GCGATTGTGA TGTGTGGGG ATAGATGAGG CTCAATCTT TGACGAAGGA

3441 ATTGTTGAGG TGGCAATCT TTTAGCTAAT TCGGGGAAAA GAATAATTAT TGCGGGATTA GACATGGATT TTAAAGGTG
<<.....RrecAORI.....<<

3521 TCCATTGGT CCTATGCCAA ATTTAATGGC GGTAGCGGAA TATGTACCA AAGTGCATGC AATCTGTGTG AAAACAGGGA
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Figure 2B continued

table 5

group	no. of chickens	Treatment			Results	
		vaccination at day 1	challenge at day 25	challenge at day 31	% of max airse score at day 10 (safety)	% of max airse score at day 38 (efficacy)
1	25	NDV	NDV	WT-OR aerosol	2.5	25 ^a
2	25	NDV	NDV	WT-OR aerosol	7.5	23 ^a
3	25	NDV	NDV	WT-OR aerosol	68	10 ^b
4	25	NDV	NDV	WT-OR aerosol	0	47
5	25	NDV	NDV	NDV	0	2

^a Significantly different ($p < 0.05$) compared to the controls (group 11) using two-sided Mann-Whitney U test

Figure 2B continued

table 6

group	no. of chickens	Treatment			Results
		vaccination at day 1	day 30	challenge day 35	
1	15	PurD aerosol	NDV	WT-OR aerosol	no reduction
2	15	NDV PurD aerosol	NDV	WT-OR aerosol	54% ^b
3	15	NDV	NDV	WT-OR aerosol	no reduction
4	15	MAS	NDV	WT-OR aerosol	no reduction
5	15	MAS PurD aerosol	NDV	VT-OR aerosol	50% ^b

^b Significantly different ($p < 0.05$) compared to the controls (group 11) using two-sided Mann-Whitney U test